What is claimed is:

1) A method for imaging a free space three dimensional perceived image, said method comprising:

- obtaining a retro-reflective screen, said screen having a known non-linear light reflection pattern;

- obtaining an optic module comprising a doublet of Fresnel lenses;

- aligning at least two image projectors in a geometry so as to be able to project images off said screen and through said optic module;

- simultaneously calculating separate two-dimensional images for projecting by each projector, said calculated images being derived from stereopair image information regarding the object and from said pattern and said geometry; and

- projecting said calculated images from said projectors onto said screen such that they reflect off said screen and through said optic module to produces a three-dimensional image of said object to a viewer at a known location.

2) The method according to claim 1, wherein Fresnel lens are oriented in opposite directions relative to an optic path.

3) The method according to claim 2, wherein said Fresnel lenses are oriented with echelon grooves facing inward toward each other, and said echelon grooves are in positive relief.

4) The method according to claim 1, wherein said projectors include tramsmissive liquid crystal display panels for displaying said calculated images.

5) The method according to claim 1, wherein said calculated images are iteratively calculated to reduce error in said three-dimensional image of said object.

6) The method according to claim 5, wherein said iterative calculations of said calculated images is performed by a computational device employing a neural network.

7) The method according to claim 1, wherein said calculated images are obtained by the steps of:

- estimating the light wave components being created by individual pixels of a display in each projector when displaying each said calculated image;

- calculating a resulting three dimensional image of an object from the expected interaction of said estimated light wave components and said known pattern;

- comparing the resulting three dimensional image with a desired three dimensional image to obtain a degree of error; and

- adjusting said flat image until said error reaches a predetermined threshold.

8) The method according to claim 7, wherein said steps for calculating said amplitude information is performed using a neural network.

9) The method according to claim 1, further comprising sensing the location of said viewer.

10) The method according to claim 1, wherein said step of simultaneously calculating separate two-dimensional images for projecting by each projector comprising solving a system of non-linear equations.

11) The method according to claim 1, wherein said calculated images are derived from base stereoscopic images in memory, and wherein said calculated images are derived so as to act as masks for one another once projected to produce stereoscopic viewable images.

12) A system for producing a perceived three-dimensional image of an object, said system comprising:

- an optic module comprising a doublet of Fresnel lenses;
- a dynamic stereoscopic image projection system containing at least two image creation units being aligned in a geometry relative to optic module, and said image creation units each containing electronically switchable displays for producing two-dimensional images;
- an imaging computational device containing a processor, said device being adapted to control pixels of said switchable displays, and said device being adapted to derive a separate flat images for each display, said flat images being calculated by said device using said pattern and said geometry and electronic stereopair images of the object to create a stereoscopic image when said derived flat images are projected through said optic module.

13) The system according to claim 12, wherein said units are stacked transmissive liquid crystal display panels placed in front of an illumination source.

14) The system according to claim 12, wherein said units comprise electronically controllable image projectors, and said system further comprising a retro-reflective screen upon

which said projectors project said derived flat images for reflection through said optic module.

15) The system according to claim 12, wherein said flat images are iteratively calculated in said computational device to reduce error in said three dimensional image of said object.

16) The system according to claim 15, wherein said computational device employs a neural network to reduce error in said three dimensional image of said object.

17) The system according to claim 12, wherein said computational device calculates said flat images by operating according to the steps of:

- estimating the light wave components being created by individual pixels of said displays when displaying each said flat image;

- calculating a resulting three dimensional image of an object from the expected interaction of said estimated light wave components of said flat images when simultaneously projected;

- comparing the resulting three dimensional image with a desired three dimensional image to obtain a degree of error; and

- adjusting said flat image until said error reaches a predetermined threshold.

18) The system according to claim 17, wherein said steps for calculating said amplitude information is performed using a neural network.

19) The system according to claim 12, wherein said display control system further comprises means for sensing a spatial orientation of a viewer of said three dimensional image, and wherein said computational device is adapted to adjust said generated flat images such that said viewer can perceive said three dimensional image of the object.

20) The system according to claim 12, wherein said computational device simultaneously calculates said flat images for projecting by each projector by solving a system of non-linear equations.

21) The system according to claim 12, wherein said Fresnel lens are oriented in opposite directions relative to an optic path.

22) The system according to claim 21, wherein said Fresnel lenses are oriented with echelon grooves facing inward toward each other, and said echelon grooves are in positive relief.

23) The system according to claim 12, wherein said system is enclosed in a cabinet to prevent ambient light from passing through said optic module.